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# WHY SHOULD I USE A CSM ON MY PROJECT?

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HTRW CX

**ENVIRONMENTAL AND NATURAL RESOURCES CONFERENCE**

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ST. LOUIS, MO

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# THE SHORT ANSWERS:

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# WHAT IS A CSM?

***A CSM is a description of a particular site and its environment that is based on existing knowledge.***

… any kind of project can have a CSM

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# PURPOSE OF THE CSM

- Presents hypotheses about types of contaminants - ***SOURCES***
- Presents hypotheses about routes of migration of contaminants, with a focus on the geologic and hydrologic model - ***PATHWAYS***
- Presents hypotheses about receptors and exposure routes - ***RECEPTORS***
- Tests and refines hypotheses through site characterization and represents the core of site characterization

# GRAPHIC CSM

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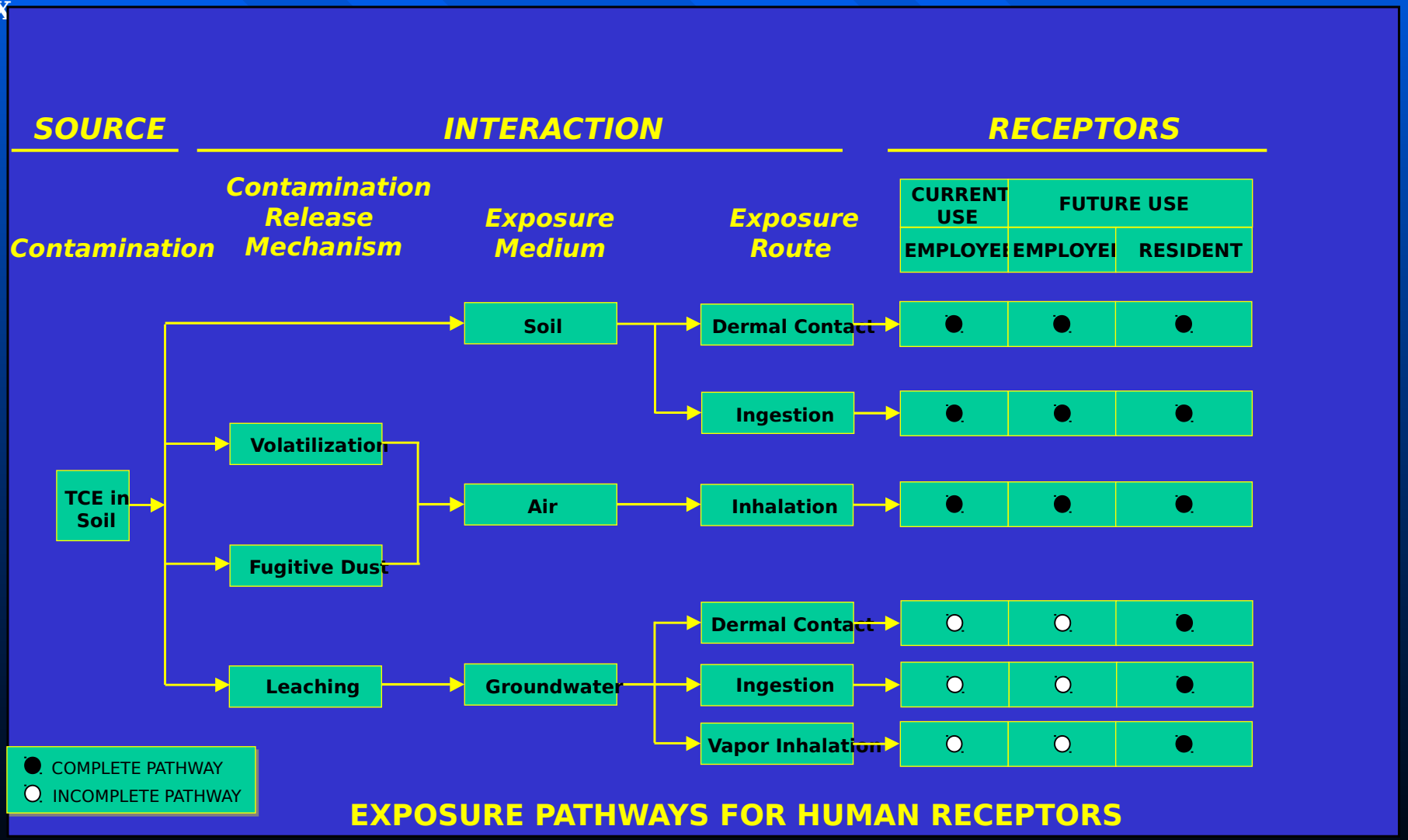


EXPOSURE PATHWAYS FOR HUMAN RECEPTORS

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# NARRATIVE DESCRIPTION

- Brief site summary
- Historical information about the site
- Source characterization
- Descriptions of migration pathways
- Identification and discussion of environmental receptors

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# CSM: A TOOL

- Used by the project delivery teams (PDTs)
  - *Hazardous, Toxic and Radioactive Waste*
  - *Munitions Response* (MEC and MC)
- Used as communication tool
- Used to define areas of responsibility
- Used to define site characterization approaches

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# REFERENCES

- EM 200-1-2, *Technical Project Planning (TPP) Process*, 31 Aug 1998

- EM 1110-1-1200, *Conceptual Site Models for Ordnance and Explosives (OE) and Hazardous, Toxic and Radioactive Waste (HTRW) Projects*, 3 Feb 2003

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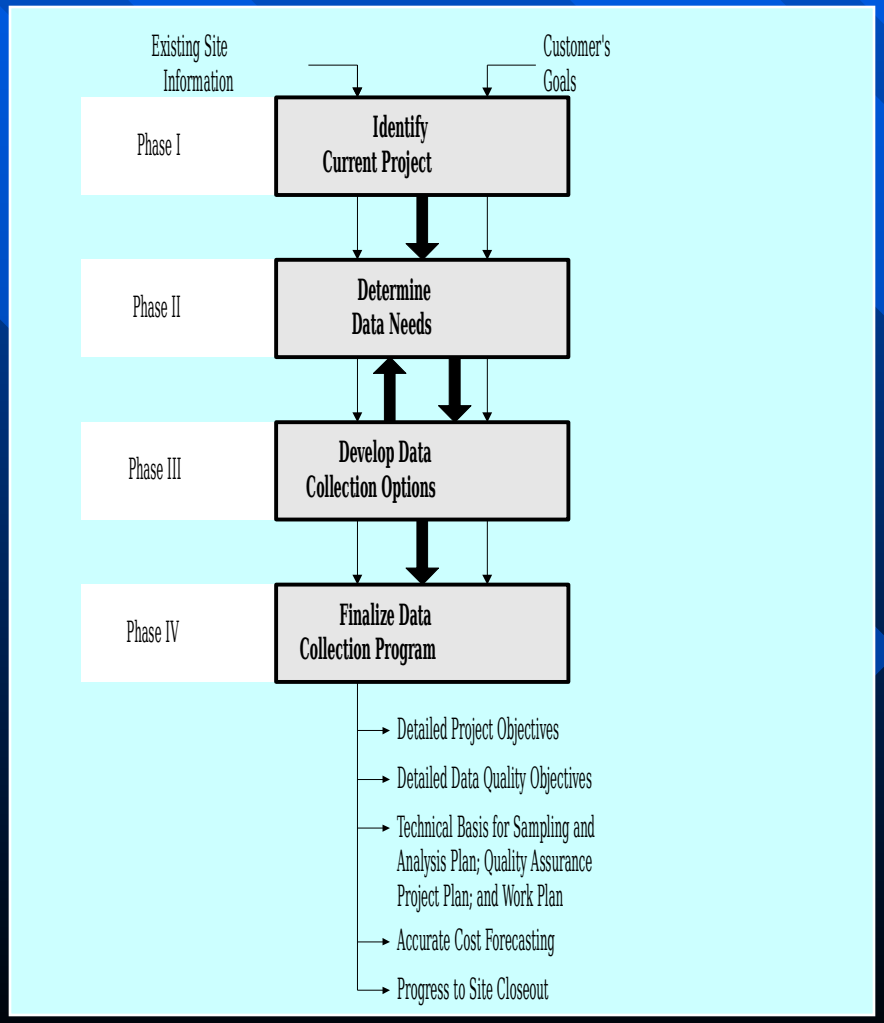
# TPP PROCESS
# EM 200-1-2



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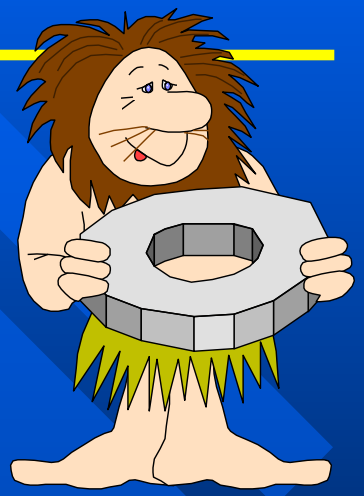
# TPP PROCESS



- Multi-Disciplinary Approach
  - Decision Makers
  - Data Users
  - Data Implementors
- Focused on Site Closeout
- Requires Definition of Project Objectives
- Promotes Documentation
  - Conceptual Site Model
  - Planning Worksheets
  - Data Quality Objectives (DQOs)

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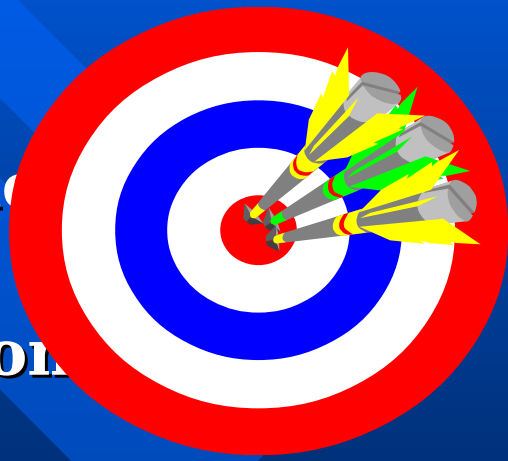
# APPLICABILITY OF TPP



- Useful for all Sites
  - Investigations/Feasibility Studi
  - Design/Site Remediation
  - Operation/Maintenance and Mon
- Promotes Graded Approach
  - Small/Simple Sites
  - Large/Complex Sites
- Flexibility of TPP Process
  - Plan New Projects
  - Review Existing Project Plans
  - Plan Next Executable Stage of Activities

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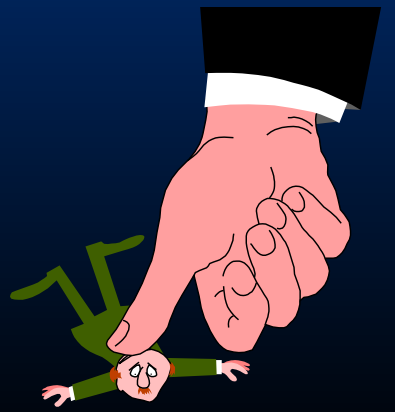
# WHY USE TPP PROCESS?

- **Satisfies EPA Order 5360.1 (*Policy and Program Requirements for Mandatory Agency-Wide Quality System*)**
- **Meets EPA's DQO Definition (*"less complex and more complete"*)**
- **Conforms to ANSI/ASQC E4 (*American National Standard for Collection and Evaluation of Environmental Data*)**
- **Accelerates Progress and Reduces Costs!**



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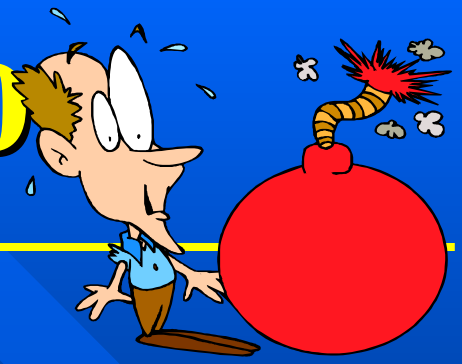
# EM 1110-1-1200



- ***Conceptual Site Models for Ordnance and Explosives (OE) and Hazardous, Toxic and Radioactive Waste (HTRW) Projects*, 3 Feb 2003**
- **Developed to "integrate" OE and HTRW**
- **Currently under revision to incorporate *Definitions Related to Munitions Response Actions*, OASA(I&E), 28 Oct 2003**

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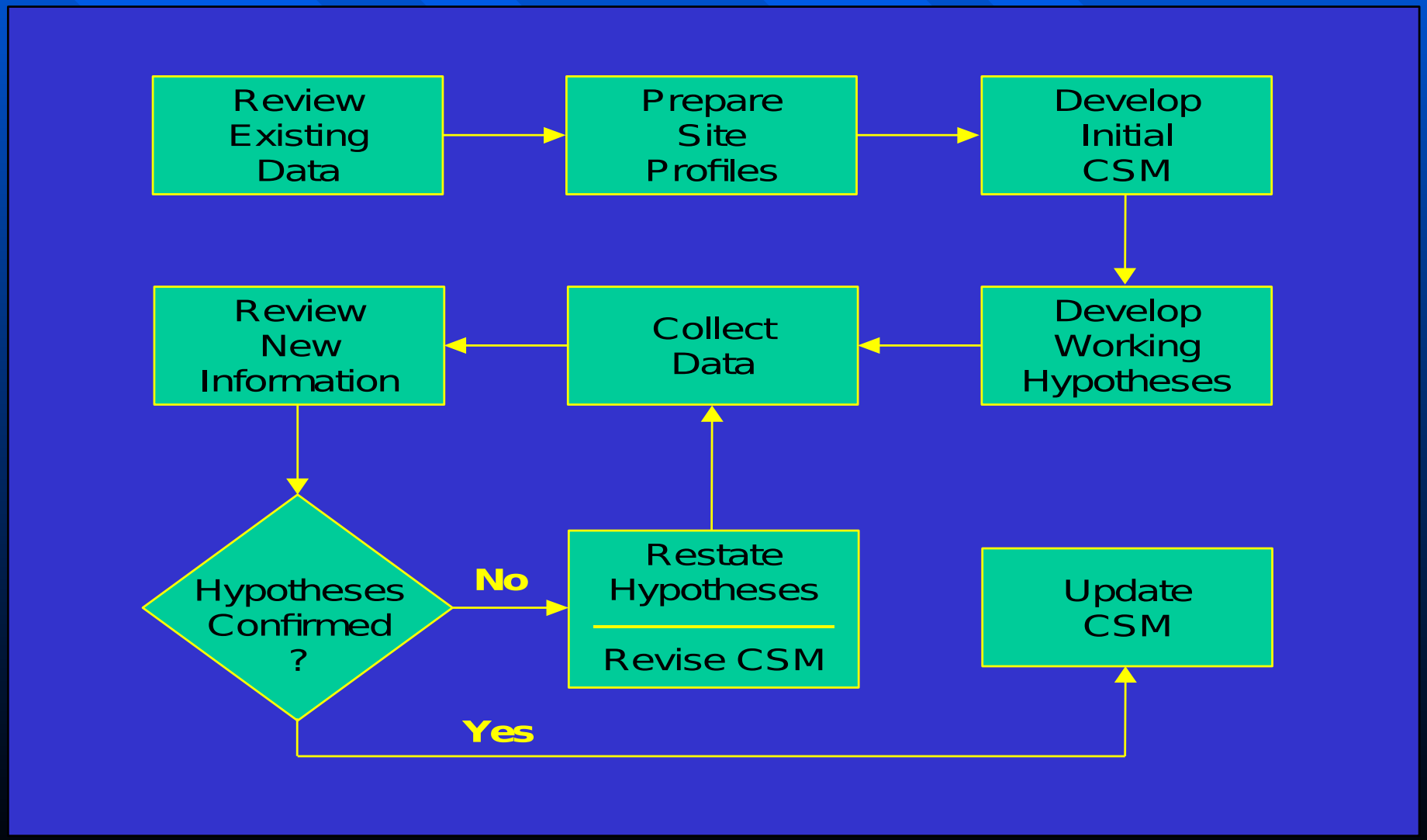
# CSM DEVELOPMENT PROCESS



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# EXISTING DATA

- Archives Search Report (ASR)
- Facility Records
- Site Visits
- Interviews
- Local Agencies
- Military Photogrammetric Study
- Previous Investigations (i.e., PA/SI)

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# SITE PROFILES

**FACILITY** – man-made features and potential sources/locations

**PHYSICAL** – factors affecting release, fate and transport, and access

**RELEASE** – movement or extent of contamination

**LAND USE AND EXPOSURE** – receptors, receptor locations, and exposure scenarios

**ECOLOGICAL** – natural habitats and ecological receptors

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# SITE CHARACTERIZATION ... WHAT YOU NEED

- **SOURCE AREAS**
  - Accessible or not
  - Areal extent
  - Hot spots
- **CONTAMINANTS**
  - Persistent or bioaccumulative
  - Fate processes and breakdown products
- **MIGRATION POTENTIAL AND ROUTES**
  - Where can contamination go
  - How far can contamination go
  - What media can be affected

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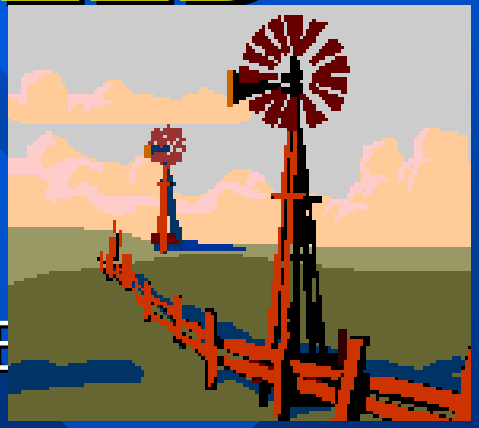
# SITE CHARACTERIZATION …WHAT YOU NEED

- **SITE USE**
  - Current
  - Reasonable Future
  - Habitat (on-site vs. adjacent)
- **SURROUNDING SITE USE**
  - Current
  - Reasonable Future
- **WHO ARE RECEPTORS**
  - On-Site (current and future)
  - Off-Site (current and future)
- **WHERE RECEPTORS ARE LOCATED**
  - Do they have access to source area



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# SITE CHARACTERIZATION … WHAT YOU NEED

- **BACKGROUND AREAS**
  - Naturally occurring
  - Anthropogenic
  - How many samples…
- **REFERENCE AREAS**
- **DATA GAPS**
  - Sampling data
  - Modeling data

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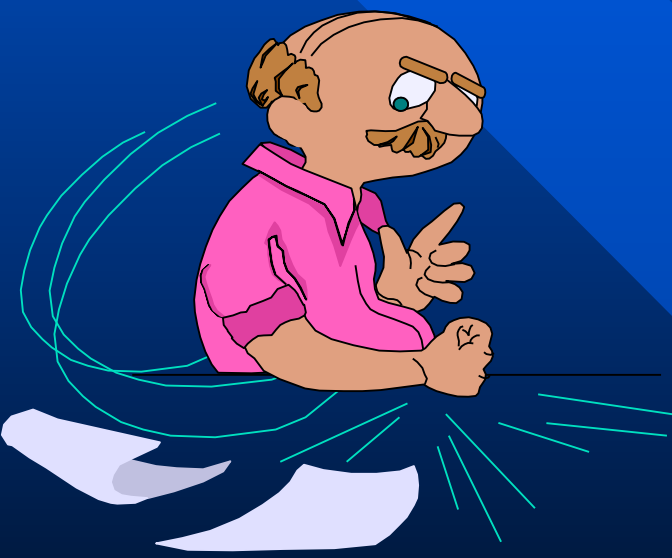
# NO SURPRIZES…



- Sampling will verify or refute hypotheses of source/receptor interactions
- All necessary data will be collected
- Only necessary data will be collected
- ***Saves Time and Money !!!!!***

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# QUESTIONS?

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